VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the major modification of the VPDES permit listed below. This permit is being processed as a Minor, Industrial permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9VAC25-260. The discharge results from the treatment of poultry processing wastewater and sanitary wastewater generated within the poultry processing facility and stormwater generated in the area surrounding the facility (SIC Code: 2015 – Poultry slaughtering and Processing). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   VPGC, LLC - Hinton
   PO Box 228
   Hinton, VA 22831
   Location: 6349 Rawley Pike, Hinton, Virginia 22831

2. Permit No. VA0002313; Expiration Date: February 29, 2020

Owner:	VPGC, LLC
Contact Name:	Ronald Harrison
Title:	Environmental Manager
Telephone No:	540.867.4366
Email:	rharrison@vapgc.com

4. Application Complete Date: July 12, 2016

   Permit Writer: Bev Carver Date: August 12, 2016
   Reviewed By: Dawn Jeffries Date: August 8, 2016, XXXX, 2016

   Public Comment Period: XXXX, 2016 to XXXXX, 2016

5. Receiving Stream Name: Muddy Creek (Outfall 001), War Branch (Outfalls 002, 005, 006, 007, 008 and 009)
   River Mile: See Appendix B, page 2
   Use Impairment: Yes
   Special Standards: pH
   Tidal Waters: No
   Watershed Name: VAV – B22R Muddy Creek
   Basin: Potomac; Subbasin: Shenandoah
   Section: 5; Class: IV

6. Operator License Requirements per 9VAC25-31-200.C: The permit modification does not include any changes to the Operator License Requirements.

7. Reliability Class per 9VAC25-790 (Outfall 101 - sewage treatment works): The permit modification does not include any changes to the Reliability Class.

8. Permit Characterization:
   ☑ Private ☐ Federal ☐ State ☐ POTW ☐ PVOTW
   ☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

9. Description of Wastewaters and Treatment Facilities: **Appendix A**

   Total Number of Outfalls = 7 external (001, 002, 005, 006, 007, 008, and 009), 2 internal (101 and 102)

10. Discharge Location Description and Receiving Waters Information: **Appendix B**

11. Antidegradation (AD) Review & Comments per 9VAC25-260-30:
    Tier Designation: Muddy Creek – Tier 1
    War Branch – Tier 2

    The State Water Control Board's WQS include an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

    The antidegradation review begins with a Tier determination. Muddy Creek in the vicinity of the discharge is determined to be a Tier 1 water. This determination is based on the fact that this facility discharges to a segment of Muddy Creek that is listed as impaired for Benthics. Antidegradation baselines are not calculated for Tier 1 waters.

    War Branch in the immediate vicinity of the discharge is not listed as impaired in the current 303(d) list and there are no in-stream data available that indicate water quality criteria (WQC) either have been violated or are barely met; therefore, War Branch at the point of this facility's discharge is designated as Tier 2 and no significant degradation of the existing water quality will be allowed. AD baselines were calculated as shown in Appendix C.

12. Site Inspection: Performed by Bev Carver on April 18, 2016, May 26, 2016 and August 11, 2016

13. NPDES Permit Rating Worksheet: The permit modification does not include any changes that affect the NPDES Permit Rating Worksheet; therefore, the rating from the 2015 permit reissuance is carried forward.
    ☐ Major ☑ Minor Score = 70

14. Effluent Screening and Effluent Limitations: **Appendix C**

15. Effluent Toxicity Testing Requirements included per 9VAC25-31-220.D: The permit modification does not include any changes to the effluent toxicity testing requirements.

16. Management of Sludge: The permit modification does not include any changes to the management of sludge.

17. Permit Changes and Bases for Special Conditions: **Appendix D**

18. Material Storage per 9VAC25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

19. Antibacksliding Review per 9VAC25-31-220.L: This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

20. Impaired Use Status Evaluation per 9VAC25-31-220.D: There have been no changes in the TMDLs affecting this facility since the permit was reissued in 2015.

21. Regulation of Users per 9VAC25-31-280.B.9: N/A – There are no industrial users associated with this facility other than the owner.

22. Stormwater Management per 9VAC25-31-120: The permit modification does not include any changes to the existing stormwater special conditions in the permit.

23. Compliance Schedule per 9VAC25-31-250: None required by this permit.

24. Variances/Alternative Limits or Conditions per 9VAC25-31-280.B, 100.H, and 100.M: None.

25. Financial Assurance Applicability per 9VAC25-650-10: N/A – This facility does not serve private residences.

26. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☑ No

27. Nutrient Trading Regulation per 9VAC25-820: See Appendix C
    General Permit Required: ☑ Yes ☐ No
    Permit No.: VAN010009

28. Nutrient monitoring included per Guidance Memo No. 14-2011: ☑ Yes ☐ No

    Nutrient monitoring at Outfall 004 was included in the 2015 permit reissuance since Outfall 004 was classified as a stormwater outfall exposed to industrial activity. The scrap metal storage area which formerly drained to Outfall 004 was removed. In addition, as a result of the new construction at the site, the drainage swale to Outfall 004 no longer exists; therefore, Outfall 004 has been removed as part of this permit modification.

    A new Outfall 009 is included in the 2016 permit modification. Outfall 009 is a stormwater outfall exposed to industrial activity. Nutrient monitoring of Outfall 009 is required.

29. Threatened and Endangered (T&E) Species Screening per 9VAC25-260-20 B.8: Because this is a major permit modification, T&E screening per the Memorandum of Understanding is required. The Coordination Form was sent to DGIF and USFWS on May 24, 2016. T&E screening was sent to DCR on May 24, 2016. Comments were received from the USFWS on June 17, 2016, from DCR on June 22, 2016, and from DGIF on August 1, 2016. All of the comments were forwarded to the permittee and were considered in the drafting of the permit.

30. Public Notice Information per 9VAC25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Bev Carver at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7805, beverley.carver@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

31. Historical Record:

The permit was reissued on March 1, 2015. Since permit reissuance there have been changes at the site which include:

- On July 10, 2015, a Concept Engineering Report was approved for wastewater treatment system improvements which included the following:

  - Primary feather and offal screens
  - Primary screen pit pump system
  - Offal room secondary screen
  - Stormwater screen
  - Truck wash screen
  - Truck wash pit pump station
  - New 1.4 million gallon flow equalization basin (FEB)
  - Flow equalization effluent pump system

  The existing stormwater basin #1, stormwater basin #2, and offline FEB were set to be demolished.

- On March 18, 2016, a Closure Plan was approved to remove the existing stormwater basin #1, stormwater basin #2, and offline FEB.

- The new 1.4 MG FEB was brought online in early 2016.

- The blue Harvester Tank which holds well water for use at the facility was relocated. In addition two additional tanks were located on the site for holding potable water from the City of Harrisonburg.

- A second, new storm water pump station was constructed near the new FEB.

- A new production facility is currently under construction; however, the permittee has indicated that no changes in the design flow of the industrial WWTP are necessary.

APPENDIX A

DESCRIPTION OF WASTEWATERS AND TREATMENT FACILITIES

Description of Facility:
VPGC slaughters and further processes turkeys.

Operations Contributing Wastewater:
Poultry processing wastewater and sanitary wastewater are generated within the poultry processing facility. Stormwater exposed to industrial activity is collected and commingled with process wastewater prior to treatment in the industrial WWTP serving Outfall 102. Sanitary wastewater is treated separately from the commingled industrial wastewater and is discharged through the STP serving Outfall 101.

Description of Outfalls:

Internal Outfall 101 (STP):
The 2016 permit modification does not include any changes to internal Outfall 101.

Internal Outfall 102 (Industrial WWTP):
The 2016 permit modification does not include any changes to internal Outfall 102.

Outfall 001 (combined discharge from Outfalls 101 and 102):
The 2016 permit modification does not include any changes to Outfall 001.

Outfall 002:
Changes to Outfall 002 are included in the 2016 permit modification.

2015 Permit: Outfall 002 consisted of reservoir overflow and stormwater not exposed to industrial activity and discharged to a ditch draining to War Branch. The raw water used at VPGC comes from a well and from the City of Harrisonburg. The well water was pumped to a reservoir and was then used in the plant. Reservoir overflow occurred when the well overflowed on Saturdays and Sundays when the processing plant was not processing.

2016 Permit: The permittee made two changes to the pipe serving Outfall 002 in 2016. The well water overflow now discharges through a new Outfall 008 that has been included in the permit. In addition, the permittee has closed off a pipe which previously allowed overflow from the Storm Water Pump Station Pit to overflow out Outfall 002 during a large storm event. As a result, Outfall 002 now discharges only stormwater not exposed to industrial activity. This is reflected in the modified permit.

Outfall 003:
Changes to Outfall 003 are included in the 2016 permit modification.

2015 Permit: Outfall 003 consisted of stormwater runoff that discharged to Muddy Creek. Normally, stormwater from this drainage area was routed through the industrial WWTP; therefore, Outfall 003 typically had no discharge unless there was a very large rain event.

2016 Permit: All stormwater which enters the drop inlet in the vicinity of Outfall 003 is captured and sent to the industrial WWTP. The stormwater drainage is minimal; therefore, the permittee collects all of the stormwater in this area. The permittee has placed the valve in a permanent closed position, so that this outfall can no longer discharge; therefore, Outfall 003 has been removed from the permit.

Outfall 004:
Changes to Outfall 003 are included in the 2016 permit modification.

2015 Permit: Outfall 004 was a new stormwater outfall in the 2015 permit. This outfall is considered exposed to industrial activity since there is scrap metal stored in this area. Stormwater from this area was not collected and is not sent to the industrial WWTP.

2016 Permit: As a result of new construction activities on the existing site, the drainage to Outfall 004 was eliminated; therefore, Outfall 004 has been removed from the permit.

Outfall 005
Changes to Outfall 003 are included in the 2016 permit modification.

2015 Permit: Outfall 005 was a new stormwater outfall in the 2015 permit. Stormwater not exposed to industrial activity is discharged.

2016 Permit: The stormwater drainage area directed to the existing Outfall 005 decreased as a result of the new construction at the site. Stormwater not exposed to industrial activity will continue to be discharged.

Outfall 006
Outfall 006 is a new outfall in the 2016 permit. Outfall 006 is the discharge from a pump pit for uncontaminated water to be routed away from under the new FEB. By routing this water away from the FEB, the structural integrity of the FEB is maintained. The discharge is through a small blue pipe.

Outfall 007
Outfall 007 is a new outfall in the 2016 permit. Outfall 007 is the discharge of uncontaminated water that is routed away from under the new FEB. By routing this water away from the FEB, the structural integrity of the FEB is maintained. The discharge is through pipe with a flapper valve on the end to prevent War Branch water from entering the pipe.

Outfall 008
Outfall 008 is a new outfall in the 2016 permit. Outfall 008 is the discharge of well water bypass and raw water storage tank emergency overflow. In an email dated July 25, 2016, the permittee stated that the maximum well water bypass rate is 230 gallons per minute. This converts to 0.3312 MGD which was used in the permit limit calculations.

A description of the raw water use is contained at the end of this Appendix.

Outfall 009
Outfall 009 is a new outfall in the 2016 permit. A rip rap area has been constructed to War Branch near the new stormwater pit and pump station. Outfall 009 is stormwater exposed to industrial activity. The permittee is actively collecting the stormwater in this area and directing it to the wastewater treatment plant. Outfall 009 will only discharge if the stormwater overwhelms the curbing and discharges directly to War Branch.

A description of stormwater management is contained at the end of this Appendix.

Description of Raw Water Flow

VPGC, LLC utilizes water from wells and from the City of Harrisonburg. There are currently 3 raw water tanks at the site:

- A 250,000 blue Harvester Tank is utilized to hold well water.
- Two new 0.5 MG silver tanks are utilized to hold water from the City of Harrisonburg.

In the 2015 permit, well water reservoir overflow from the 250,000 gallon blue Harvester Tank was directed to Muddy Creek through Outfall 002. As part of the new construction at the site, the blue Harvester Tank was relocated and two new 0.5 MG silver tanks for City water were installed. The 2016 permit modification request includes a new Outfall 008 to War Branch for the overflow from the raw water system.

The water in three raw water holding tanks will have chlorine ranging from 0.3 to 0.8 mg/L.

There are three possible sources of water overflow to Outfall 008:

- Well water bypass - Well water is constantly pumped at a maximum of 230 GPM and an average of 200 GPM. In order to avoid turbidity issues, the well water constantly flows to the raw water system. Well water is directed to a turbidity meter. If the turbidity is greater than 2 NTUs or the blue Harvester Tank is ¾ full, the well water will bypass the system (prior to chlorination) and go to Outfall 008. This is the routine discharge from Outfall 008.
- The blue Harvester Tank contains well water that has been chlorinated. The tank has an emergency overflow pipe that is visible running along the side of the tank. The permittee utilizes a transducer-transmitter that shuts the influent valve to the tank once the tank fills to ¾ capacity. There is also a float switch that will shut the valve if the transducer-transmitter fails. The emergency overflow pipe may discharge chlorinated water in the unlikely event that both the transducer-transmitter and float switch fail to work properly.
- The two silver City Water Tanks have emergency overflow pipes that are visible running along the sides of the tanks. The permittee utilizes a transducers-transmitters that shuts the influent valves to the tanks once the tanks fill to ¾ capacity. There are also float switches that will shut the valves if the transducers-transmitters fail. The emergency overflow pipes may discharge chlorinated water in the unlikely event that both the transducers-transmitters and float switches fail to work properly.

Description of Stormwater Management/Treatment:

East Collection Pit – The permittee has indicated that the gate valve in the East Collection Pit has been placed in a permanent closed position and that discharge through the Outfall 003 overflow pipe is no longer possible.
Collection Pit at Old Storm Water Pump Station – During the site visit on April 18, 2016, it was noted that the Collection Pit received process wastewater in addition to industrial storm water. In response, the overflow pipe in the Collection Pit was sealed shut so that it could no longer overflow to Outfall 002.
New Collection Pit and New Storm Water Pump Station – The facility now has a second storm water pump station located near the raw water storage tanks. Stormwater exposed to industrial activity from a portion of the site is directed to the new collection pit. The new Collection Pit has no overflow pipe.

- The permittee is currently making modifications to the stormwater drainage to reduce the volume of stormwater directed to the new stormwater pump station. The majority of the stormwater exposed to industrial activity will be directed to the old stormwater pump station.
- There is a rip rap area next to the new stormwater pump station which will be permitted as new Outfall 009. In the event of a large storm event, storm water has the potential to "jump the curb" and discharge through new Outfall 009 to War Branch.

New 1.4 MGD FEB – The 3 basins that were formerly used for equalization have been removed. A new 1.4 MG FEB has been constructed. Industrial process wastewater and stormwater exposed to industrial activity is directed to the new FEB. From the FEB, the wastewater is pumped to the industrial WWTP.

Under routine conditions, all of the stormwater exposed to industrial activity is captured and sent to the FEB.

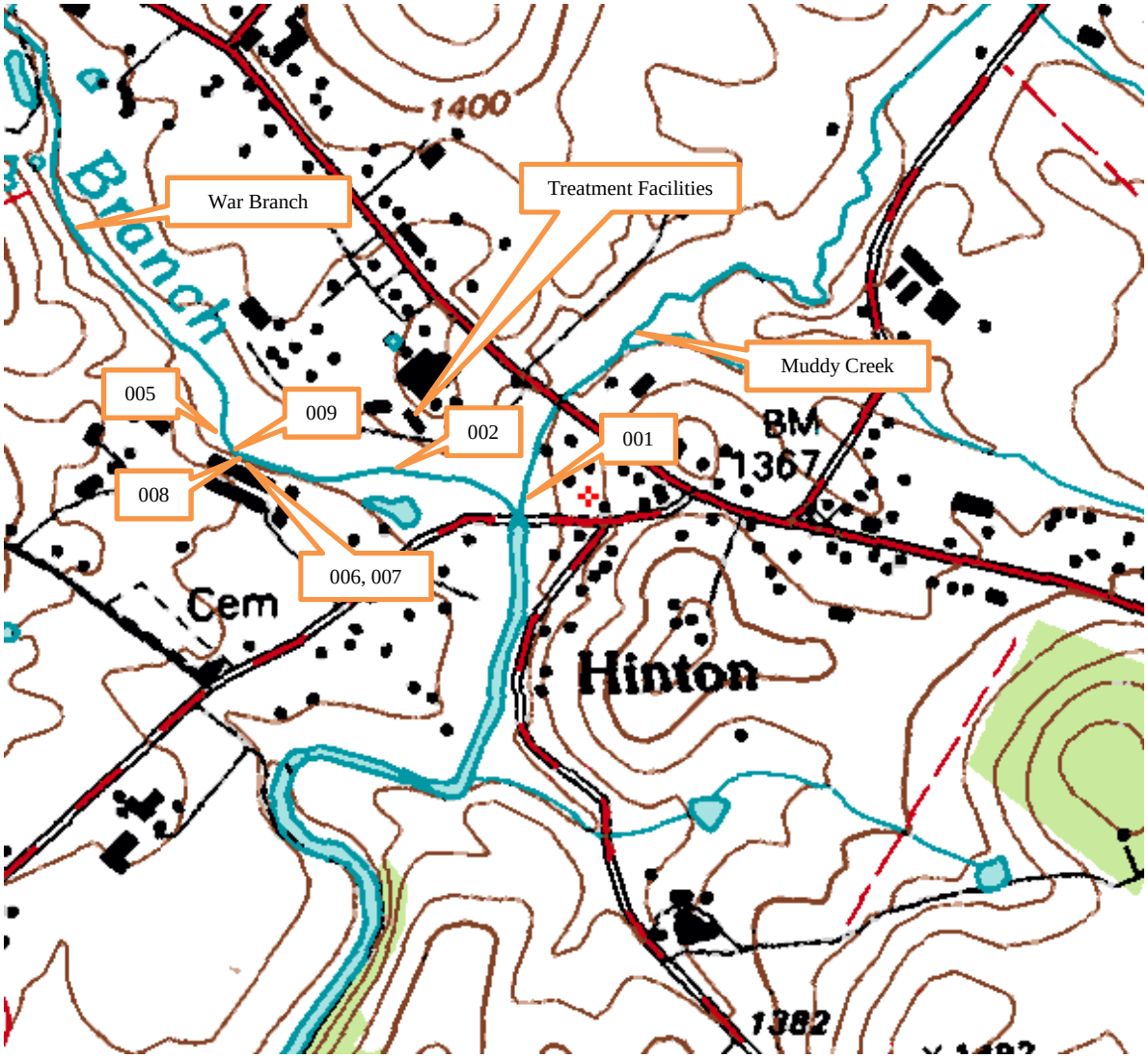
APPENDIX B

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

The location of the treatment facilities and outfalls are shown on the topographic map below.

Existing Outfalls:
Outfalls 001, 002, and 005

New Outfalls:
006: Pump pit to route ground water from under the FEB. Discharges through small blue pipe.
007: Pressure relief pipe with flapper on the end to route stream water from under the FEB.
008: Raw water bypass and raw water storage tank emergency overflow
009: Stormwater exposed to industrial activity



PLANNING INFORMATION

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the Water Quality Assessments Review table and corresponding map below.

WATER QUALITY ASSESSMENTS REVIEW
POTOMAC-SHENANDOAH RIVER BASIN
5/25/2016

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
B21R-01-BAC	Dry River	6.32	0.00	6.32	E-coli, Fecal Coliform	
B22R-01-BAC	Muddy Creek	10.31	0.00	10.31	E-coli, Fecal Coliform	
B22R-01-BEN	Muddy Creek	10.31	0.00	10.31	Benthic	

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0002313	VPGC, LLC - Hinton - 001	Muddy Creek	3.7	382757	0785834	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 002	War Branch	0.147	382756	785841	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 005	War Branch	0.212	382800	785841	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 006	War Branch	0.2	382759	0785844	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 007	War Branch	0.2	382759	0785844	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 008	War Branch	0.28	382802	0785847	VAV-B22R
VA0002313	VPGC, LLC - Hinton - 009	War Branch	0.3	382803	0785847	VAV-B22R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
Buttermilk Run	1BBT000.84	0.84		382840	0785956	
Dry River	1BDUR004.32	4.32	12/01/99	382648	0785936	
Dry River	1BDUR006.46	6.46	06/28/00	382806	0780038	
Muddy Creek	1BMDD001.65	1.65	03/02/70	382649	0785903	
Muddy Creek	1BMDD003.74	3.74	08/12/96	382801	0785832	
Muddy Creek	1BMDD005.15	5.15	09/23/99	382852	0785808	
War Branch	1BWRB000.06	0.06		382759	0785836	
War Branch	1BWRB001.93	1.93		382915	0785923	
Muddy Creek	1BMDD005.17	5.17	11/02/10	382852	0785845	
Muddy Creek	1BMDD005.81	5.81	09/03/93	382912	0785738	
Muddy Creek	1BMDD002.10	2.10	10/01/96	382706	0785913	

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE				
None						

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **Yes**

If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION					
Nutirents Under the Watershed General Permit						

WATERSHED NAME

VAV-B22R Muddy Creek

FLOW FREQUENCY DETERMINATION

VPGC, LLC - Hinton Outfall 001 discharges to Muddy Creek just upstream of the confluence with War Branch. The permit modification does not include any changes to Outfall 001l therefore, revised stream flow frequencies are not required at this site for Muddy Creek.

However, a new Outfall 008 has been proposed to War Branch which requires stream flow frequencies.

The USGS and VADEQ have operated a continuous record gage on Muddy Creek at Mount Clinton, VA (#01621050) from 1993 to present. This gage is located approximately 2.1 miles upstream of the Outfall 001 discharge point. The flow frequencies at the new Outfall 008 discharge point were determined by using the values at the gage and adjusting them by proportional drainage areas. The data for the gage and the discharge point are presented below.

Muddy Creek at Mount Clinton, VA (#01621050):
Drainage Area = 14.3 mi^2

1Q30 =	0.22 cfs	High Flow 1Q10 =	unavailable
1Q10 =	0.39 cfs	High Flow 7Q10 =	unavailable
7Q10 =	0.44 cfs	High Flow 30Q10 =	unavailable
30Q10 =	0.58 cfs	Harmonic Mean =	3.03 cfs
30Q5 =	0.78 cfs		

Because the high flow months are not contiguous, calculation of the flow frequencies for the high flow months was not possible.

War Branch at VPGC, LLC – Hinton Outfall 008 discharge point:
Drainage Area = 12.22 mi^2

1Q30 =	0.188 cfs *	0.121 MGD	High Flow 1Q10 =	NA	NA
1Q10 =	0.333 cfs	0.215 MGD	High Flow 7Q10 =	NA	NA
7Q10 =	0.376 cfs	0.243 MGD	High Flow 30Q10 =	NA	NA
30Q10 =	0.496 cfs	0.320 MGD	Harmonic Mean =	2.59 cfs	1.67 MGD
30Q5 =	0.667 cfs	0.431 MGD			

* Updated DFlow data was not available; therefore, the flow frequency data available from the gage statistics spreadsheet was used.

The analysis assumes that (a) there are no significant discharges, withdrawals, or springs that may influence the flow in War Branch upstream of the discharge point and (b) there are no significant discharges, withdrawals or springs between the gage and the discharge point.

Peer Reviewer: Dawn Jeffries
Date:7/29/16

EFFLUENT/STREAM MIXING EVALUATION

Mixing zone predictions were made with the Virginia DEQ Mixing Zone Analysis Version 2.1 program. The predictions are based on the discharge and receiving stream characteristics, and are presented below.

Mixing Zone Predictions for VPGC, LLC - outfall 008

Effluent Flow = 0.3312 MGD
Stream 7Q10 = 0.243 MGD
Stream 30Q10 = 0.320 MGD
Stream 1Q10 = 0.215 MGD
Stream slope = 0.002 ft/ft
Stream width = 17 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .1916 ft
Length = 1481.45 ft
Velocity = .2728 ft/sec
Residence Time = .0629 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .2068 ft
Length = 1388.45 ft
Velocity = .2867 ft/sec
Residence Time = .0561 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .1859 ft
Length = 1519.6 ft
Velocity = .2675 ft/sec
Residence Time = 1.5781 hours

Recommendation: A complete mix assumption is appropriate for this situation providing no more than 63.37% of the 1Q10 is used.

Virginia DEQ Mixing Zone Analysis Version 2.1

MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000 Harrisonburg, VA 22801

SUBJECT: Site Visit for VPDES Permit No. VA0002313
VPGC, LLC - Hinton

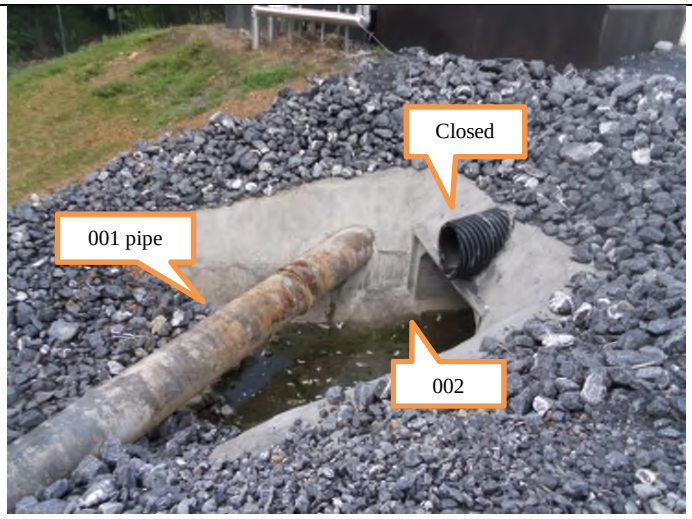
TO: FileNet – VA0002313

FROM: Bev Carver

DATE: May 26, 2016

On May 26, 2016, the writer performed a site visit at the subject facility. Present were Noel Thomas and the writer from DEQ, and Ron Harrison, Phil Miller and Eddie Raynes from VPGC, LLC. Photos taken during the site visit are included on the following pages.

Outfall 002. The Outfall 001 pipe goes across the drainage. The black corrugated pipe from the stormwater collection pit has been closed.



Outfall 002

Area near Collection Pit for Storm Water Pump Station #2

Collection Pit for new Storm Water Pump Station #2

New curbing near Storm Water Pump Station #2

New curbing near Storm Water Pump Station #2

Rip Rap next to Collection Pit for Storm Water Pump Station #2. This has been included as Outfall 009.

Outfall 005

City Water Tanks

New FEB. The large white pipe is for truck wash and stormwater. The smaller pipe is for process wastewater from the processing plant.

APPENDIX C

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS:

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the tables below.

Outfall 001
No changes were made to the limits at Outfall 001as a result of the permit modification.

Outfall 101 (Sewage Treatment Plant)
No changes were made to the limits at Outfall 101 as a result of the permit modification.

Outfall 102 (Industrial WWTP)
No changes were made to the limits at Outfall 102 as a result of the permit modification.

Outfalls 002 and 005 (stormwater not associated with industrial activity)

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Outfalls 002 and 005 shall contain only stormwater not exposed to industrial activity. There shall be no discharge of process wastewater from Outfall 002 or 005. No monitoring of these outfalls is required.					

Outfall 004 (stormwater associated with industrial activity)
Outfall 004 has been eliminated at this permit modification.

Outfalls 006 and 007 (water diversion from under the Flow Equalization Basin)
Outfalls 006 and 007 are new outfalls at this permit modification.

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Outfalls 006 and 007 shall contain only uncontaminated water diverted from under the Flow Equalization Basin. There shall be no discharge of process wastewater from Outfalls 006 or 007. No monitoring of these outfalls is required.					

Outfall 008 (raw water bypass and raw water storage tank emergency overflow)

Outfall 008 is a new outfall at this permit modification.

Outfall 008 **Final Limits** **Max. Flow: 0.3312 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Flow (MGD)	2	NL	NL	1/Month	Estimate
---	---	Monthly Average	Weekly Avg.	---	---
TSS (mg/L)	2	NL	NL	1/Month	Grab
Effluent Chlorine (TRC)(mg/L)	1	0.0035	0.0070	1/Day	Grab

Refer to permit for definitions of monitoring frequencies and sample types

BASIS DESCRIPTIONS

1. *Water Quality Standards (9 VAC 25-260)*
2. *Professional Judgment*

Outfall 009 (stormwater associated with industrial activity)

Outfall 009 is a new outfall at this permit modification.

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Total Suspended Solids	1	NA	NL	1/6 Months	Grab
TKN	1	NA	NL	1/6 Months	Grab
Nitrite-N + Nitrate-N	1	NA	NL	1/6 Months	Grab
Total Phosphorus	1	NA	NL	1/6 Months	Grab
Total Nitrogen*	1	NA	NL	1/6 Months	Calculated

NL = No Limitation, monitoring required *NA = Not Applicable*

** Total Nitrogen, which is the sum of TKN and Nitrite-N + Nitrate-N, shall be determined from the results of those tests*

1/6 Months = Semiannual sampling (January 1 – June 30 and July 1 – December 31) with the results submitted with the DMR due January 10th and July 10th of each year until data from a minimum of four semiannual samples have been submitted

BASIS DESCRIPTIONS

1. *Guidance Memo No. 14-2011 dated August 8, 2014, Nutrient Monitoring for Nonsignificant Discharges to the Chesapeake Bay Watershed*

EVALUATION OF THE EFFLUENT – TOXICS – Outfall 008:
Stream and discharge values for pH and temperature are not required for evaluation of TRC.

WQC and WLAs were calculated for the WQS parameters for which data is available. Those WQC and WLAs are presented below.

WQC-WLA SPREADSHEET INPUT – Outfall 008:

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name: VPGC, LLC - Outfall 008
Receiving Stream: War Branch
Permit No.: VA0002313
Date: 8/23/2016
Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information			Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0.215 MGD	Annual	- 1Q10 Flow =	63.37 %	Mean Hardness (as CaCO3) =	mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0.243 MGD		- 7Q10 Flow =	100 %	90% Temp (Annual) =	deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0.32 MGD		- 30Q10 Flow =	100 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season	- 1Q10 Flow =	%	90% Maximum pH =	SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD		- 30Q10 Flow =	%	10% Maximum pH =	SU
Tier Designation =	2	30Q5 =	0.431 MGD				1992 Discharge Flow =	0.0 MGD
Public Water Supply (PWS) Y/N? =	N	Harmonic Mean =	1.67 MGD				Discharge Flow for Limit Analysis =	0.3312 MGD
V(alley) or P(iedmont)? =	V							
Trout Present Y/N? =	N							
Early Life Stages Present Y/N? =	Y							

Footnotes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
2. All flow values are expressed as Million Gallons per Day (MGD).
3. Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
4. Hardness expressed as mg/l CaCO3. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO3.
5. "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
6. Carcinogen "Y" indicates carcinogenic parameter.
7. Ammonia WQSs selected from separate tables, based on pH and temperature.
8. Metals measured as Dissolved, unless specified otherwise.
9. WLA = Waste Load Allocation (based on standards).
10. WLA = Waste Load Allocation (based on standards).
11. WLAs are based on mass balances (less background, if data exist).
12. Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
13. Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
14. Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
15. Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQC-WLA SPREADSHEET OUTPUT – Outfall 008:

Facility Name: VPGC, LLC - Outfall 008
Receiving Stream: War Branch
Permit No.: VA0002313
Date: 8/23/2016

PRE - DISCHARGE WATER QUALITY CRITERIA
0.000 MGD Discharge Flow - 100% Stream Mix

Toxic Parameter and Form	Carcinogen?	Current Downstream Mix Concentrations			Aquatic Protection		Human Health		INSTREAM BASELINES		
		Acute	Chronic	H-Health	Acute	Chronic	Public Water Supplies	Other Surface Waters	Acute	Chronic	H-Health
Chlorine, Total Residual	N	0	0	0	1.9E-02 mg/L	1.1E-02 mg/L	None	None	4.8E-03 mg/L	2.8E-03 mg/L	None

Facility Name: VPGC, LLC - Outfall 008
Receiving Stream: War Branch

ANTIDEGRADATION WASTE LOAD ALLOCATIONS
0.331 MGD Discharge - 100% Stream Mix

Toxic Parameter and Form	Aquatic Protection		Human Health
	Acute	Chronic	
Chlorine, Total Residual	7.8E-03 mg/L	4.8E-03 mg/L	N/A

POST - DISCHARGE WATER QUALITY CRITERIA
0.331 MGD Discharge Flow - Mix per "Mixer"

Aquatic Protection		Human Health	
Acute	Chronic	Public Water Supplies	Other Surface Waters
1.9E-02 mg/L	1.1E-02 mg/L	None	None

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS
0.331 MGD Discharge - Mix per "Mixer"

Aquatic Protection		Human Health
Acute	Chronic	
2.7E-02 mg/L	1.9E-02 mg/L	N/A

MOST RESTRICTIVE WASTE LOAD ALLOCATIONS
0.331 MGD Discharge Flow

Aquatic Protection		Human Health
Acute	Chronic	
7.8E-03 mg/L	4.8E-03 mg/L	N/A

PROTOCOL FOR THE EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS :

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh}, the WLA_{hh} was imposed as the limit.

Since there are no data available immediately upstream of this discharge, all other upstream (background) pollutant concentrations are assumed to be "0".

The steps used in evaluating the effluent data are as follows:

A. If all data are reported as "below detection" or < the Quantification Level (QL), and at least one detection level is ≤ the required QL, then the pollutant is considered to be not significantly present in the discharge and no further monitoring is required.

B. If all data are reported as "below detection", and all detection levels are > the required QL, then an evaluation is performed in which the pollutant is assumed present at the lowest reported detection level.

B.1. If the evaluation indicates that no limits are needed, then the existing data set is adequate and no further monitoring is required.

B.2. If the evaluation indicates that limits are needed, then the existing data set is inadequate to make a determination and additional monitoring is required.

C. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.

C.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.

C.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the permit.

Outfall 008

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
MISCELLANEOUS					
TRC (mg/L)	7782-50-5	0.1 mg/L	**Default = 20 mg/L**	**a**	**C.2**

The **superscript "C"** following the parameter name indicates that the substance is a known or suspected carcinogen; human health criteria at risk level 10^{-5}.

CASRN = Chemical Abstract Service Registry Number for each parameter is referenced in the current Water Quality Standards. A unique numeric identifier designating only one substance. The Chemical Abstract Service is a division of the American Chemical Society.

"Source of Data" codes:
a = default effluent concentration

"Data Evaluation" codes:
See section titled PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS for an explanation of the code used.

STAT.EXE RESULTS – Outfall 008:

Chemical = TRC
Chronic averaging period = 4
WLAa = 0.0078
WLAc = 0.0048
Q.L. = 0.1
# samples/mo. = 30
# samples/wk. = 7

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average= 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 7.02035896345551E-03
Average Weekly Limit = 4.28738381296848E-03
Average Monthly Limit = 3.47943848023671E-03

The data are: 20

WHOLE EFFLUENT TOXICITY (WET) EVALUATION:
The permit modification does not contain any changes to the existing WET evaluation.

APPENDIX D

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified as a result of the permit modification. Also provided is the basis for each of the permit special conditions that changed.

Cover Page	• Outfalls 003 and 004 were removed • Outfalls 006, 007, 008 and 009 were added.
Part I.A.1	**Effluent Limitations and Monitoring Requirements – Outfall 001 – 1.10 MGD Permitted Flow Tier:** *The permit modification does not include any changes to Part I.A.1.*
Part I.A.2	**Effluent Limitations and Monitoring Requirements – Outfall 001 – 1.52 MGD Design Flow Tier:** *The permit modification does not include any changes to Part I.A.2.*
Part I.A.3	**Effluent Limitations and Monitoring Requirements – Outfall 101 (STP):** *The permit modification does not include any changes to Part I.A.3.*
Part I.A.4	**Effluent Limitations and Monitoring Requirements – Outfall 102 (Industrial WWTP) – 1.08 MGD Permitted Flow Tier:** *The permit modification does not include any changes to Part I.A.4.*
Part I.A.5	**Effluent Limitations and Monitoring Requirements – Outfall 102 (Industrial WWTP) – 1.5 MGD Design Flow Tier:** *The permit modification does not include any changes to Part I.A.5.*
Part I.A.6	**Effluent Limitations and Monitoring Requirements – Outfalls 002, 005, 006, and 007:** Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual. *Updates Part I.A.6 of the previous permit with the following:* • Outfall 003 was removed. • The description for Outfall 002 was changed to remove the reference to well water reservoir overflow. • Outfalls 006 and 007 were added. • A footnote was added referencing the stormwater management requirements. • A footnote was added that there shall be no discharge of floating solids or visible foam in other than trace amounts. • A note was added that Outfalls 002 and 005 shall contain only stormwater not exposed to industrial activity.
Part I.A.7	**Effluent Limitations and Monitoring Requirements – Outfall 008:** *New requirement.* Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.
Part I.A.8	**Effluent Limitations and Monitoring Requirements – Outfall 009:** *New requirement.* Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.
Part I.B	**Effluent Limitations and Monitoring Requirements – Additional Instructions:** *Updates Part I.B of the previous permit. The QL for chlorine was added. Outfall 008 was added to the compliance reporting section.* Authorized by VPDES Permit Regulation, 9VAC25-31-190.J.4 and 220.I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.
Part I.C	**Whole Effluent Toxicity (WET) Requirements:** *The permit modification does not include any changes to Part I.C.*
Part I.D.1	**95% Capacity Reopener (Outfalls 101 and 102):** *The permit modification does not include any changes to Part I.D.1.*

Part I.D.2	**Materials Handling/Storage:** *The permit modification does not include any changes to Part I.D.2.*
Part I.D.3	**O&M Manual Requirement:** *The permit modification does not include any changes to Part I.D.3.*
Part I.D.4	**Certificate to Construct (CTC)/Certificate to Operate (CTO) Requirement (Outfall 101):** *The permit modification does not include any changes to Part I.D.4.*
Part I.D.5	**Concept Engineering Report (CER) Requirement (Outfall 102):** *The permit modification does not include any changes to Part I.D.5.*
Part I.D.6	**Sludge Management Plan (SMP) Requirement (Outfall 101):** *The permit modification does not include any changes to Part I.D.6.*
Part I.D.7	**Licensed Operator Requirement (Outfall 102):** *The permit modification does not include any changes to Part I.D.7.*
Part I.D.8	**Reliability Class (Outfall 101):** *The permit modification does not include any changes to Part I.D.8.*
Part I.D.9	**Water Quality Criteria Monitoring:** *The permit modification does not include any changes to Part I.D.9.*
Part I.D.10	**Treatment Works Closure Plan:** *The permit modification does not include any changes to Part I.D.10.*
Part I.D.11	**Reopeners:** *The permit modification does not include any changes to Part I.D.11.*
Part I.D.12	**Annual Average Concentration Limits:** *The permit modification does not include any changes to Part I.D.12.*
Part I.D.13	**Effluent Monitoring Frequencies (Outfall 001):** *The permit modification does not include any changes to Part I.D.13.*
Part I.D.14	**Notification Levels:** *The permit modification does not include any changes to Part I.D.14.*
Part I.D.15	**Nutrient Monitoring Requirements for Discharges of Industrial Stormwater:** *Updates Part I.D.15 of the previous permit by changing the Part I.A.7 references to Part I.A.8.* Nonsignificant dischargers are subject to aggregate wasteload allocation for TN, TP, and sediments under the TMDL for the Chesapeake Bay. Monitoring of TN and TP is required in order to verify the aggregate WLAs. Refer to Guidance Memo No. 14-2011, Nutrient Monitoring for "Nonsignificant" Discharges to the Chesapeake Bay Watershed.
Part I.D.16	**Expansion of facilities that discharge to waters subject to the Chesapeake Bay TMDL:** *The permit modification does not include any changes to Part I.D.16.*
Part I.E.1	**General Stormwater Special Conditions:** *The permit modification does not include any changes to Part I.E.1.*
Part I.E.2	**Stormwater Pollution Prevention Plan:** *The permit modification does not include any changes to Part I.E.2.*
Part I.E.3	**Sector Specific Stormwater Pollution Prevention Plan Requirements:** *The permit modification does not include any changes to Part I.E.3.*
Attachment A	*The permit modification does not include any changes to Attachment A.*
Part II	**Conditions Applicable to All VPDES Permits:** *The permit modification does not include any changes to Part II.*